

Adaptive Course of Action (ACOA)

1. System Description

The Adaptive Course of Action (ACOA) system stores plans in a Campaign Object server so that plans are available at all times to operational planners at all levels of planning and at different geographical sites. ACOA provides a distributed collaborative environment through the following segments:

Web Planner: The Web Planner consists of an integrated set of planning tools served uniformly from a web site that is accessible by a standard web browser. Web Planner planning tools are integrated at three levels, the graphical user interface level, the data representation level and the data service level.

All tools in the Web Planner toolset share a common look and feel. All tools access and manipulate the same underlying plan data, which is stored in a common object-oriented architecture and served through a CORBA-based server. Plan data used by Web Planner tools is accessible by other applets and applications through the same distributed plan service architecture.

The Dynamic Operations Planning Tool (DOPT) is a sequenced guidance tool, which takes a planner through the necessary steps of operational planning in an ordered manner. Through the DOPT, the planner inputs information, which results in the generation of standard documents and orders, selection of a CJTF, the selection of a course of action (COA), and the association of forces with a COA.

The Course of Action Selection Tool (COAST) helps the planner to specify alternative COAs for a campaign, establish criteria by which to evaluate the effectiveness of the various COAs, and perform computations, which compare and rank the COAs according to their ability to meet the selected criteria. COAST screens capture the analyses performed in COA evaluation in a color display, which is useful for inclusion in briefs and slides, to document the decision-making process.

Microsoft Office tools are integrated into the toolset for document and slide generation. Multicast collaboration tools provide the planner with VTC and whiteboard collaboration capability. Tools for force selection, TPFDD generation and scheduling are currently in development.

LEIF: The Lightweight Extensible Information Framework (LEIF) is both an application and an open software development framework. As a Command and Control (C2) and Information Technology application, LEIF presents a client interface to the operator. As an open framework, LEIF offers lightweight, client-oriented core architecture, with no required middle-tier or server capabilities. LEIF provides the means to collect data from various sources, combine the data intelligently, and display the data in various dimensions and configurations (maps, data plots, time plots, tables, spreadsheets, etc.). Data sources, data views and other data processing tools are integrated into LEIF as independently developed LEIF extensions (i.e., plug-in modules).

Odyssey: Odyssey is a standalone Java Application that runs independently of a browser. Odyssey is a method (a way of doing) and a framework (a way of thinking) when conducting distributed collaborative planning activities. It provides an over-arching graphical interface that requires little or no training but provides a powerful context in which to do strategic level planning. Odyssey provides general collaboration services and unlimited access to other electronic tools that a planner may need in the course of his/her duties. Operational personnel can quickly find and use disparate tools in the development of complex plans, requiring input from numerous sources.

Geospatial Force Planning Tool (GFPT): GFPT provides a visual, time-phased, map-based planning environment for users to develop their operational plan. The system will allow the user to select forces and assign tasks by drawing their respective symbols on top of a digital map. The mapping environment is provided through integration of the LEIF and the COP. The user will also have the ability to select various objects/tasks and view property windows describing the object's attributes. If desired, further drill-down will be possible to follow links back to the object's data source. For example, if the user has selected a unit (ship, armored division, etc), the drill-down links will pull the unit's home page. This will display the units GSORTS data such as Readiness levels.

Virtual Situation Book (VSB)/Virtual Plan Book (VPB): VSB/VPB intelligently organizes and presents a condensed overview of a particular topic. The VSB/VPB makes use of advanced visualization formats (dynamically tailored to users) with drill-down that enable quick understanding of the important elements of a crisis situation. VSB/VPB is a multimedia container for live distributed objects (objects are connected to pertinent data sources). VSB/VPB objects are represented in multi-dimensional, hierarchical and multi-scale forms. Temporal analysis is supported. To support drill-down, VSB/VPB makes use of a Knowledge Broker Agent to intelligently access the repositories needed to elaborate the information shown by the live objects.

Intelligent Process Manager (IPM): IPM is a foundation technology for ACOA. It consists of IPM/Process Design and Reengineering (IPM/PDR) and IPM/Process Monitoring and Visualization (IPM/PMV). IPM/PDR is a process design, verification, visualization, and analysis tool with multiple means for entering a process model and with email-based facilities for importing processes specified in Excel or ProcessScript. IPM/PMV is a collaborative process monitoring and visualization tool with facilities for tracking the status of individual activities and rolling up the individual activity status to determine the status of the parent processes.

IPM/PDR is used on ACOA to define/capture, verify, and catalog component CAPE processes at multiple levels of abstraction. These component processes or process fragments are the building blocks for constructing process models for CAPE scenarios. IPM/PDR is being used to create a library of reusable ACOA process fragments (assets). This library will support the composition of a CAPE process model for a particular mission. The resulting model will be used by IPM/PMV to monitor and visualize the state and status of the overall process. It does so by rolling up the status of the individual activities (i.e. leaf nodes) and subprocesses from lower levels.

2. System Requirements

ACOA runs on the Windows NT 4.0 platform.

3. Users/Training

ACOA is intended for use by all GCCS operational planners. Training will be embedded in the ACOA system.